Monetary systems, sustainable growth and inclusive economic development

Edo Omerčević

Finance Department, American School of Economics, American University in Bosnia and Herzegovina, Mije Keroševica Guje 3, 75000 Tuzla, Bosnia and Herzegovina

29. January 2013

Omerčević, Edo, 2013. Monetary systems, sustainable growth and inclusive economic development. *Paper presented at the 2nd International Conference on Islamic Economics and Economies of the Muslim Countries*. January 29-30. Available at: <http://mpra.ub.uni-muenchen.de/id/eprint/44559>.

Monetary systems, sustainable growth and inclusive economic development

Edo Omerčević

Finance Department, American School of Economics,
American University in Bosnia and Herzegovina,
Mije Keroševica Guje 3, 75000 Tuzla, Bosnia and Herzegovina
Tel: (387) 35 321 050, Fax: (387) 35 340 100, E-mail: eomercevic@aubih.edu.ba

Abstract:

The main objective of this study is to review the literature on monetary issues and discuss how money and monetary systems contribute to the achievement of sustainable growth and inclusive economic development. The paper is based on an extensive review of literature that deals with monetary issues with the objective of building a case that the achievement of sustainable growth and inclusive economic development requires the right monetary system to be put in place which supports those objectives. The review of literature and theoretical reasoning assert that in order to achieve the stated economic objectives there is a need to develop and implement a different concept of money than the existing one. This study shows that the current monetary system does not provide a platform to achieve the desired economic objectives, irrespective of whether conventional or Islamic banking is the major banking and financial services provider. Theoretical models are outlined which can provide the foundation for healthy economic environment for sustainable growth and development. This including the discussion on a return to metallic moneys in form of the *Islamic Gold Dinar* system, a fiat monetary system based on the concept of *Free-Money* and a monetary model which is built on a commodity-based information system that can be easily implemented using today's existing information and communication technology.

Key words:

Economic growth, economic development, monetary systems

1. Introduction

That the current rate of worldwide economic growth is simply unsustainable for the environment has been pointed out in public on various occasions. Doubts are being expressed that if we are all to achieve the current level of economic development of the United States of America ("US"), our planet might simply not be able to satisfy the needs for resources, and various documentaries have been produced to inform the wider public of this unsustainable development and the expansion paths our economies have taken (Crude Impact, 2006; The Story of Stuff, 2007; The 11th Hour, 2007). What is also interesting to note is the paradox of being motivated to adapt our consumption attitudes to the limits set by nature, but at the same time a decrease in market demand, or even just a standstill, leads to calls for governmental intervention and various stimulus packages to offset the diminished levels of consumption. Growth is one of the most important indicators of economic well-being and full-employment. A zero growth economy is the nightmare of any ruling political party, while a negative growth is an equivalent to a lighter version of Armageddon. Another problem tackled in this paper is the inability to achieve inclusive economic development which is reflected in persistent income and ownership disparities worldwide (United Nations Development Programme, 1997; Meera, 2002; Hartman, 2011), and this in spite of all the efforts in form of pro-poor growth policies.

This paper is an attempt to highlight the relevance of the monetary sector to the issue of sustainable growth and inclusive economic development. However, the discussion is not about the legality of the modern money mechanism ("MMM"). As indicated by the works of Siegfried (2001) as well as Haneef & Barakat (2002), there seems to be no divine instruction on the choice of money. Indeed, the divine texts (i.e., Qur'an and Sunnah) seem to be silent on the choice of money, even though some are claiming that gold and silver are the preferred choices of money in Islam (Vadillo, 1991; Diwany, 1997; Meera). In order to avoid debating formalities and technicalities, the focus of this discussion and analysis will be shifted towards the ways and means of meeting certain stated objectives which a monetary system is to fulfill. By adapting the objectives of money and monetary systems to be in line with objectives of the Shari`ah, which according to Imam al-Ghazzali are the promotion of well-being of all mankind by safeguarding their faith (din), their human self (nafs), their intellect (`aql), their posterity (nasl) and their wealth (mal) (Dusuki & Abdullah, 2007), we might be able to determine which monetary systems fits the requirements and which do not. Sustainable

growth and inclusive economic development fit perfectly into the objectives of the Shari'ah. In continuation of the above, the paper will cover the compliance of the current MMM with the determined objectives. In order to succeed with this attempt, we firstly need to understand the MMM and how it works, and, if any difference exists between the monetary system practiced via conventional banking and its counterpart, namely Islamic banking. Once a judgment is formed, we need to consider the arguments calling for change, even radical change like a return to a gold based monetary system as an alternative monetary mechanism to the MMM but also modifications of the contemporary fiat monetary system. Given the many alternatives offered, this paper is going to be limited to two offered alternatives in the form of a return to the Islamic gold dinar system ("IGD"), representing a rather radical change, and another concept called Free-Money, a concept introduced by a German scholar, Silvio Gesell, who outlined a monetary system based on a fiat currency representing a rather softer modification of MMM. The paper is also going to introduce a third option, that might be considered a rather innovative change in monetary politics, namely a commodity based information system. As mentioned earlier, instead of arguing over formalities and technicalities (since works of other authors indicate that both commodity as well as fiat monetary systems are Shari'ah compliant), the focus will be on attaining the stated objectives (i.e. sustainable growth and inclusive economic development).

2. The MMM

In order to understand the discussion later in the paper, it is very important to briefly outline and understand the MMM. As is widely known, today's money consists mainly of currency (paper money and coins) and deposits in banks. It is also important to know that what we use today as money is generally fiat money (Gonczy, 1992; Hoppe, 1994; Meera). The term "fiat" is used to indicate money which has no value as a commodity. As it is, neither paper currency nor deposits have value as commodities. Essentially, any paper currency is just a piece of paper, while deposits all over the world are merely accounting entries. Even though coins do have some intrinsic value as metal, it is generally far less than their face value. Given the profitability of fiat money creation, and the temptation of overissuence (White, & Selgin, 2000; Hornberger, 2000; Laidler, 2005), some control measures have been introduced which are formulated in countries' banking acts. For example, the most common limitation for central banks is the prohibition of simply issuing money and acquiring ownership of assets in the economy. Instead, central banks must make profits by purchasing securities and

earning interest. Other common ways for central banks to issue money is by buying gold or foreign currency. The money created at this stage is also called high-powered money because it forms the foundation for the money creation process of commercial banks. Commercial banks, the actual major suppliers of money, create their share of money supply in the form of deposits based on the available reserves of high-powered money. The amount of money they are able to create depends on other restricting factors, like reserve requirements set by regulating authorities. Therefore, if the reserve requirement amounts to 10%, and a commercial bank which has accumulated reserves amounting to 1,000 units of national currency ("NC") makes full use of its money-creation powers, it would be able to create new deposits up to a total of NC 10,000 by means of issuing loans or buying securities. In conventional banking, the money creation process in banks can take place only by means of issuing loans and purchasing securities since the commercial banks are also not allowed to directly acquire assets with their created money. Rather than making direct use, banks are allowed to earn profits by means of lending the created money on interest or earning interest on purchased securities (Gonczy). The restrictions on banking activities in Islamic banks are not as tight as in conventional banks (Rosly, 2005). However, by manipulating reserve requirements for different product types, Islamic banks still are able to create money primarily by means of financing products.

It also important to mention, that by repaying loans, or by buying back securities from the banks, money is destroyed. As a result, under the MMM money can only exist if society is in debt.

Currently, given that in the MMM the whole banking system (including Islamic banks) creates money via loans/financing products or by purchasing securities, it is very important to highlight that money creation is fully backed by debt. A dollar of money equals a dollar of debt, and the case is the same for any NC. Hence the tendency to call today's money debt or credit money.

3. The incompatibility of the MMM to sustainable growth

The creation of money in the form of debt is not the topic of discussion in this paper. The reason for that is that money as debt is not intrinsically affecting the compatibility of the monetary system with sustainable growth. However, given that money supply is created by means of loans or financing products, it is very important to note the role of interest and profit rates in the growth process of money supply, an influence which the literature very

often neglects. This point is very pertinent to our consideration of the incompatibility of the MMM to sustainable growth and therefore will be elaborated in this section.

Let us assume that a commercial Islamic bank received a currency deposit amounting to NC 1,000. Under a 10% liquidity reserve requirement and assuming that capital reserve requirements are covered, the bank is able to issue another NC 9,000 as financing facilities resulting in a total deposit value of NC 10,000. Let us assume further that the bank pays 5% hibah on deposits and charges a 10% profit rate on issued financing facilities. In the next period the value of deposits would increase to NC 10,500 (NC 10,000 + 0.05 x NC 10,000) while the value of financing facilities would increase to NC 9,900 (NC 9,000 + 0.10 x NC 9,000), the difference (NC 900 – NC 500) between the two being profit for the bank (i.e. NC 400). Two things need to be noted here:

1. The money supply in the form of deposits increased by the amount of declared hibah (in the above example amounting to NC 500). The hibah calculation for the next period is done using the new total value of deposits as principal amount (i.e. NC 10,500).
2. The amount of high-powered money used as reserves for the deposit creation process is insufficient and needs to increase as well.

Based on the above observations, we can conclude that in the current monetary system, in the long run, the national central banks would be forced to continually increase the supply of fiat money simply to sustain the system, while the banks would continuously extend financing facilities and loans to the public and private sector in order to make efficient use of their reserves. Hence, the attachment of profit rates (or interest rates in conventional banking) on issued money forces a continuous increase in both state money (fiat money) and bank money (loans). The same scenario is repeated in conventional banking, the difference being only in the banking products and the banks charging and paying interest rates instead of profit rates and hibah.

A continuous increase in money, as shown above, results in a growth pattern that can be described as exponential. In the appendix, monetary growth patterns of randomly selected countries are graphically shown for the period 1970-2008 (reflecting the Post-Bretton-Woods monetary era). It is obvious that in all cases monetary growth has experienced continuous expansion, in many cases an almost perfect exponential growth pattern (Australia, Bahrain, Algeria, Egypt, India, Iran, Morocco, Malaysia, and Singapore). To be clear, an exponential

growth rate of money means that it starts growing slowly, but continues at an ever faster growth rate. To reflect the impact of such growth, please imagine your ancient and visionary family member 1,000 years ago having invested 1 dollar for you in a bank at 3% stipulated return. The value of this deposit after 100 years would be worth a miserable 19 dollars, but after 500 years it would be already 2,621,877 dollars. However, today (i.e. after 1,000 years), the value would be an incredible 6,874,240,231,169 dollars. This growth pattern is reflected in data shown in the appendix. Like cancer, which starts spreading slowly in the body, it ends up growing at a very rapid rate until the body is taken over resulting in death. The problem with such a growth pattern is that it absolutely does not reflect a normal growth pattern which is based on the assumption that there is physical maximum to growth, mimicking the growth pattern of human beings, as well as plants and animals. A normal growth pattern would have in the beginning a rather high growth rate, at a certain point begin to slow and eventually stop when optimal size has been reached (the visual difference between the two different growth patterns is shown in Fig. 1). Limiting economic to natural growth rates should especially apply in the case of a sustainable economy which takes into account the economic growth limitations imposed by capacity limitations of the natural habitat.

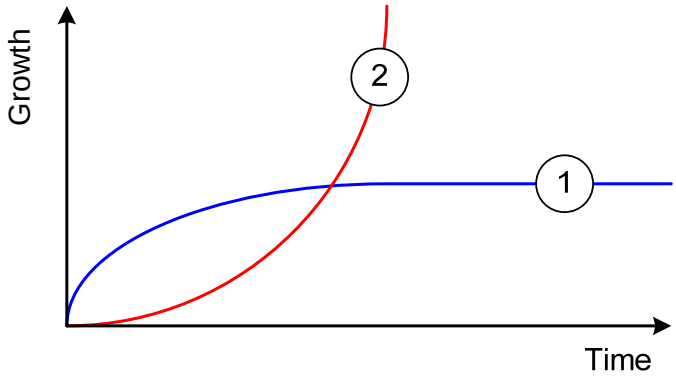


Fig. 1 Natural (1) vs. Exponential (2) growth patterns

The importance of the growth pattern of money is best shown by using the equation of exchange, which relates the nominal income to the quantity of money and its velocity of circulation as shown in Eq. (1).

$$M \bullet V = P \bullet Y \qquad (1)$$

Having a continuous and exponential increase in money supply (M), and assuming velocity (V), or the speed of money circulation remains constant over time, we can see that the equation requires the appropriate adjustment to take place either in increase in real output (Y), or price level (P), which is inflation. Inflation, of course, is considered one of the major economic and social evils, and hence the pressure is on the real economy to replicate the exponential growth pattern of money, which obviously does not correspond to a sustainable growth pattern. Money, in due course, drives societies to such levels of economic activity finally resulting in a depletion of natural resources, which means the eventual destruction of the biosphere. This is very much evident in the case of First World countries. Despite their levels of economic activity, high levels of consumption, enviable living standards, the drive for continuous growth remains. However, the resulting high emission values of greenhouse gases, deforestation rates, toxic waste emissions, water quality deterioration, salinization and desertification of soils and the depletion of the fish stock indicate that obviously such a trend is simply unsustainable:

> "Our totally unsustainable consumption means that the First World could not continue for long on its present course, even if the Third World didn't exist and weren't [sic] trying to catch up to us (Diamond, 2005, p.513)."

Given the analysis presented above, we might conclude that the current monetary system based on debt with stipulated returns and/or interest, results in a money supply which does not support a sustainable economy. Even though it contributes to unsustainable, it would be interesting to know, does it at least contribute to an inclusive economic development? The analysis of the following section deals with this issue.

4. The incompatibility of MMM to inclusive economic development

Inclusivity is a concept that encompasses equity, equality of opportunity, and protection in market and employment transitions (Ianchovichina & Lundstrom, 2009). Inclusive economic development is an essential ingredient of any successful growth strategy. Relevant to our issue of money and monetary systems, the emphasis should be on equity and equality in access to money and an unbiased distribution of maintenance costs of the monetary system. Formulated differently, we have to ask the following:

1. Does the current monetary system systematically deprive any part of society of access to money?
2. Are all sectors of the society equally affected by the costs of the monetary system?

To answer the first question, we need to refer again to the MMM. Given that money is created in form of debt, it is very important to point out one more time that banks do not create only debt, but they add their profits or interest to the amount to be repaid by the borrowers. This profit or interest is usually shown in form of a percentage return per annum. At this point, it must be highlighted that at the moment when the principal amount is created, that is at the time the loan is made or the financing facility issued, the money required to pay the profits or interest is not yet created. This amount needs to be created in subsequent periods and depends on the public taking additional loans and financing facilities which again have profits and interest attached to them. Such a system results in a situation in which there is never enough money to satisfy the needs of all market participants, even though money expands at an exponential rate, or in other words, a manmade scarcity of money is being imposed on the public. The ensuing state of the market is an artificially induced competition between borrowers for the, ironically scarce money (because there is actually too much of it), in order to repay their debts. This real life contest is many times compared to the game of musical chairs, in which eventually someone has to fail. This fact has been highlighted by Greco (2001), Shakespeare (2002) and Lietaer (2003) but again, this scarcity of money in relation to its usefulness is cited in the official publication of the Federal Reserve Bank of Chicago as the main source of its value: “Money, like anything else, derives its value from its scarcity in relation to its usefulness (Gonczy, p.3).” It might be worth noting that this scarcity, along with other issues, exists because of the fact that profits and interest are attached to financing facilities and loans, and to the fact that banks do not accept anything else for repayment except money, save for the situation of bankruptcies when banks will behave otherwise.

Referring once again to the equation of exchange, assuming that there is a temporary physical limit to the growth of an economy related to a constantly growing money supply, it is clear that the balancing of the equation very often takes place via the price level, i.e. inflation. Meera argues that the inability to adjust income to inflation equally in all sectors of society results in an ever increasing disparity in income distribution, systematically creating poverty.

It is also very interesting to note who actually carries the burden of financing the contemporary monetary system. Kennedy (1995) identified two misconceptions which need to be clarified in order to understand the real costs the population is incurring for the maintenance of the monetary system:

a) We pay profit rates and interest only if we borrow money
b) We are all equally affected by profit rates and interest in the present monetary system

Given that prices are a reflection of incurred costs and desired profits, it is logical that financial costs (profit rates and interest) are included in the price structure as well. A sample of how the price structure is influenced by the costs of the monetary system is shown in table 1. It is obvious that financial costs sometimes form the major cost of a product and/or service, resulting in consumers actually paying interest or profits to banks even though they may not have even having taken a loan or a financing facility. As a result, we are all payers of interest and profits to banks, directly or indirectly. The next question which needs to be addressed, are we all equally affected by those payments?

Table 1 Interest share in the price of selected items (Kennedy).

	ITEM	INTEREST SHARE IN THE PRICE	PLACE OF OBSERVATION
1.	**Garbage Collection Fees**	**12%**	**City of Aachen, 1983.**
2.	**Drinking Water Costs**	**38%**	**A northern German water supply works, 1981.**
3.	**Use of Drains/Sewage Costs**	**47%**	**City of Aachen, 1983.**
4.	**Cost of Rent in Public Housing**	**77%**	**Calculations of the Federal Office of Statistics, 1979.**

According to Kennedy we are not. After dividing the German society of 1982 into ten numerically equal sections, she showed a comparison of their interest payments and income from interest. Her findings indicate that:

> "... the first eight sections of the population pay more than they receive, the ninth section receives slightly more than it pays, and the tenth receives about twice as much interest as it pays, i.e., the tenth receives the interest which the first eight sections have lost (p.9)."

Taking into account the above mentioned arguments and data it is easier to understand why some accuse the current system of making the rich richer and the poor poorer. Hence, we might conclude that the MMM neither supports a sustainable economic growth nor inclusive economic development. Furthermore, it is rather clear that a monetary system which imposes upon a society an ecological collapse and/or a systematic creation of poverty (absolute and relative) is incompatible with Islam and its objectives.

5. Islamic gold dinar ("IGD")

As a solution to the many problems of MMM, some favor a return to gold as the better monetary unit (Hoppe; Diwany; Hossein, 2007). Given the historical role of gold in Islamic history, as well as it being mentioned in the Holy Qur'an and the Sunnah of the Prophet Mohammed s.a.w.s., some refer to the return to a gold based monetary system as the return to the Islamic Gold Dinar, an expression to be used in this paper. It is argued that commodity based money, i.e. gold, provides a more stable monetary base because its creation and destruction in a similar manner as with fiat money in the current monetary system is not possible. Meera argues that this stability in its supply is the major advantage of the IGD system. Given its limited world supply, and the fact that new gold supplies incur significant costs of extraction, additional gold supplies would only be extracted if the returns are justifiable, i.e. when marginal revenue equals marginal cost. As a result, market forces themselves regulate the supply as opposed to the fiat monetary system which requires a disciplined central regulatory body to curb the inherent tendency to overissue the currency. The result would be a monetary supply curve which is more in line with the natural growth pattern as shown in figure 1. Another major advantage would be that money is not created as debt, but as a circulating commodity. Thus, maintenance of the money supply would not be based on constant existence of debt as in the MMM.

However, it is very important to note that IGD supporters also understand the economic function of interest and stipulated profit rates on debt instruments in the process of redistributing the ownership of money and they therefore require the abolition of stipulated returns on debt products in line with the introduction of the IGD system (Diwany; Meera, 2004). Specifically, although stipulated returns on debt instruments in an IGD system would not result in an increase of money supply as in the fiat monetary system, they would lead to a concentration of ownership of money, resulting in similar end effects in the economy. Given that the religious classification of stipulated returns on debt instruments as Ribā is being

challenged (Farooq, 2007), it is crucial to understand the difference between the religious argumentation against stipulated returns on loans and financing facilities (be it in the form of interest in conventional banking or stipulated profit rates in Islamic banking) and the economic reasoning for the establishment of a sound and fair economy.

Having explained how the introduction of the IGD would change the growth pattern of money from an exponential to a natural one, it remains to be debated how the society's access to money would be regulated, as well as how the cost of the monetary system would be socially distributed.

Private ownership is a basic principal in the Islamic as well as in the modern economy. The same principal applies to money as well. A Muslim has the right to own money and to employ it as he/she wishes in a halal (permissible) manner, although some regulations and recommendations on the ownership and handling of money are issued. So as Muslims are discouraged from hoarding money (Qur'an, at-Taubah: 34) as well as obliged to pay Zakat (Qur'an, an-Nisaa: 162), the most probable outcome is an accelerated circulation of money. Some argue that this intensity of circulation is more important to the effective functioning of an economy than the quantity of money (Gesell, 1918; Schwarz, 1931; Bates, 2006). The intensified circulation of money, with the absence of interest rates, might result in a better access to money than in the current system in which shortages of money are artificially created.

The cost of the monetary system would be equivalent to the social labor and capital costs incurred to produce and/or earn as well as to maintain the gold quantities needed in the market. Hence, a transformation of effort into financial capital would be taking place. Yet, with the abolition of interest, there would be no systematic transfer and concentration of financial wealth to a minority, and with the imposition of Zakat, even its redistribution would be possible.

6. Criticism of the IGD and the concept of Free-money

In spite of the outlined potential benefits of a return to the IGD system, some remain hostile to the idea (Gesell; Hasan, 2007; Cizakca, 2010). Silvio Gesell, a Prussian merchant, theoretical economist and a social activist from the late 19th and early 20th century, makes a rather strong accusation against gold as money and provides an innovative recipe for a just monetary system, to which we will refer later in the paper. Firstly, therefore, we will begin by

outlining his case against gold. Among others, some of his strongest accusations against gold are claims that:

> "The gold standard and beggary are inseparable... If men continue to love display and to spend part of their increase of income in buying the products of the goldsmith's art; and if gold continues to be the raw material for the medium of exchange – the prosperity of mankind as a whole is impossible (p.108)."

Elsewhere, he makes another strong statement against gold as the medium of exchange and exclaims:

> "Under the rule of metal money men must periodically eke out existence as homeless beggars. Gold, our hereditary king, is the true 'roi des gueux', the king of beggars (p.109)."

Silvio Gesell considers money to be a manufactured product which value does not depend on the raw material used, but simply on its functionality. As he says, "Money and its material can never be considered one, for between them lies the law which today unites, but tomorrow may separate them (p. 61)." Gesell addresses directly those who recommend gold as the right choice for money because of its intrinsic value by simply questioning the fact that money can exchange only its own intrinsic value, its value as a substance, given that paper money is being used widely and as it is known, "paper money has no "value as a substance" (p.67)". Gesell attributes the value of money to the need to exchange the products of individual economic units. In order to do so, economic participants use money as an intermediary in the process of exchange. It is this need which creates the demand for money. Its value is determined as for every other commodity, based on the laws of demand and supply, demand being the amount of transactions and the value of those transactions, while supply is the number of notes multiplied by its velocity. This explanation is very much in line with the modern understanding of money. More interesting is his view on interest rates and their function. He claims that the existence of interest rates is a pure monetary phenomenon, i.e., the cause of the existence of interest is simply a shortage of money. Since the medium of exchange, or money, is a commodity with the function to act as an intermediary in the

exchange process, the result of a shortage of money would be the same as a shortage of any other commodity: Specifically, its 'price' would go up, and those with the highest bid would end up holding it. The question now is what is the price of money? The answer is given in any standard book about money and monetary systems: Interest (or stipulated profits in Islamic banking). It is being claimed by Silvio Gesell that commodity monies (i.e. gold) are an unfortunate choice, since they usually lead to an imbalance of desired money quantities in the market, and therefore cause competition for the available currency, resulting in the existence of interest rates. The reason is very simple, and actually is being used as one of many arguments by those in favor of a return to the IGD: Assuming that gold is used as a raw material for producing money, it must be admitted that money as a commodity has a great advantage over other commodities, namely that of being indestructible. All commodities are deteriorating, except precious metals. The problem of this advantage of money over other commodities is that people prefer to save in money rather than in commodities. This, however, results in the withdrawal of the needed currency for the purpose of exchange, leading to the abovementioned competition for money and, thus, interest. Given this possibility of blocking exchange by withholding money from circulation, Gesell calls this return a tribute which the money holders demand from those in need of money. Thus it functions as a tollgate. If a person is unable to pay the tribute, he/she will not be able to obtain the medium of exchange which is needed to perform economic transactions (p.103).[1]

Another problem of precious metals is that they provide utility to its users not only as a medium of exchange, but also as a raw material used in industry and in the production of various kinds of ornaments. As people's income increases, the choice of raw materials usually changes to those of higher quality. That means that more gold will also be in demand in industry as the overall wellbeing in a society improves. As a result, in a situation in which more money is demanded to support the higher levels of commercial (and thus economic) activity, the raw material which is used for producing money is then also more in demand for

[1] Being a result of market demand and supply, interest existed and continues to exist whenever there is a shortage of money. Various mechanisms and names are used, but the main characteristic remains, namely that some individuals are willing to return more money than they obtain from those with surplus funds (or those with money creation powers). This is visible also in contemporary Islamic banking which is being accused of mimicking or simply disguising conventional interest. According to the criteria set by Gesell, the Islamic banking industry is charging interest, or a tribute, on exchange.

other uses. This fact can actually contribute to economic disturbances, deflation and even the beginning of economic decline.

Gesell's view on money as a product, independent of the raw material it is made of, and his dislike of money as a superior store of value, results in the following recommendations for the right choice of money, namely Free-Money:

1. The cheapest raw material should be used for producing money, as would be logical for the production of any other commodity (hence his favoring of paper money, which in today's time would most probably be electronic money).
2. Money must not be superior over other commodities, and hence should have an inbuilt loss function reflecting the deterioration process of other commodities. He proposes that money should lose value on a weekly basis to a total of about 5% per annum which should be transferred to the issuer of money (which would cover the costs of maintaining the system).
3. As the regulator of the money supply, the price index should be used: If the price index begins to fall, more money should be issued, while if the price index starts to increase, the issuing of money should simply slow down, while the inbuilt loss function would cause the money supply to reduce.

The importance of the inbuilt loss function has been noted by M.N. Siddiqi as well:

> "Liquidity premium is not the cause but the effect of interest. ... To discourage hoarding and bring money on a par with other assets (commodities) it should be subject to a carrying cost besides being divested of liquidity premium by abolition of interest. ... The key to a solution lies in subjecting money to the natural law of depreciation over time to which all other commodities are subject. This is the Islamic principle of Zakat which makes all forms of private wealth 'depreciate' from the viewpoint of the private owner by about 2.5% per annum. This will discourage hoarding and make all money circulate (Diwany, p. 185)."

What Gesell claims is that by adopting his recipe for a just monetary system, i.e. the Free-Money concept, one would create money that reflects the real sector and hence provide a

natural connection to the goods and services it represents (in monetary form). Referring to the aforementioned problems of the current monetary system, the money supply, as per Gesell's concept, would not have an inbuilt growth pattern, but instead an inbuilt decreasing pattern, reflecting the deterioration process of everything else in the real sector. Hence, a normal growth pattern of money is achievable. With this step, a monetary system supporting sustainable growth is provided.

With an inbuilt depreciation of money, intensification of the circulation of money would be achieved, and this should result in better access to money than in the current system, contributing to inclusive economic development. The cost of the monetary system would be carried by those holding onto money, reflecting the cost of holding actual real goods. This way, justice is done by equating the costs of holding money to costs of holding goods in stores. The abolition of interest would also mean that there would be no systematic transfer and concentration of financial wealth to a minority.

7. Commodity-based information system

Karl Marx noted that "The fact that money can, in certain functions, be replaced by mere symbols of itself, gave rise to that other mistaken motion, that it is itself a mere symbol (McLellan, 2008, p. 55)." Fiat money has an assigned value, being in its nature valueless. This creates the problem of establishing the initial price level. Fiat money always needs a preexisting price level (which is either established via market forces based on a commodity monetary standard or determined by a central authority) in order to establish the exchange rates, i.e. the price level, upon which it could continue to operate (van den Hauwe, 2007). Hence, fiat money seems not to be able to function as an independent unit of account, which is one of the major functions of money. In this regard, Ibn Khaldun claimed that "... God created the two minerals, gold and silver, as the measure of value for all capital accumulations (Dawood, N.J., 2005, p.298)." However, by accepting commodity money, one runs, among others, the risks which are outlined by Gesell.

Yet, another very important point to be noted is that money does not have to be the exclusive medium of exchange. These two functions need to be strictly separated. The function as a unit of account is to establish the relative value relationships among goods and services, while the function as a medium of exchange is to enable the actual exchange process. The exchange process does not have to be limited to money alone. Different mechanisms may be applied to perform the actual exchange process. For example, the early

colonial merchants in the US used a credit barter system for exchange due to lack of money (Kreiser, 1976). Under this credit barter system, goods were exchanged for goods but there was a delay between the time one party received goods and when the other made payment in goods. Various examples exist of exchange currencies which functioned parallel to national currencies in order to support the exchange process. Thus, national currencies would be used to express prices, while the parallel currencies would be used to perform the actual exchange process. Perhaps the most famous example is that of the WIR Bank, a Swiss bank which issues a private currency used by its members to perform exchanges of goods and services which are priced in the national currency. And yet, given that the Swiss franc is an interest based fiat currency as well, the Swiss model still suffers from the same problems as outlined earlier in the paper.

The Swiss model, even though not offering the solution, actually might be used as the model for the proposed solution in Muslim countries (or any other country for that matter). If gold is implemented as the main currency, taking on the role as a unit of account and medium of exchange as well, a price level might be established as recommended by those supporting a return to commodity monies. In order to solve the problem of interest and/or stipulated returns on debt, which is singled out in this paper as the major problem of endless monetary growth and/or concentration of monetary assets, additional exchange mechanisms need to be introduced as well. By implementing a credit clearing system to play the role of a complementary system of exchange, the problems associated with commodity monies would be solved, the major one being a possible shortage in supply and thus an inability to satisfy the needs of the market. Having such a system, the need for gold would decrease drastically. In tables 2 and 3, a trade scenario is shown involving three parties. As can be seen, with a well developed credit clearing system, a trade volume with a value of 12.6 gold units can be covered with 0.1 gold units needed to settle outstanding trade balances. In this example, that would constitute a mere 0.8% of the trade volume.

Table 2 A possible trade scenario between three parties (individuals or countries)

	Gold Units			
Trade With	Customer A	Customer B	Customer C	Total Sales/Exports
Customer A	X	3.5	1.0	4.5
Customer B	3.0	X	2.0	5.0
Customer C	1.5	1.6	X	3.1
Total Purchases/Imports	4.5	5.1	3.0	12.6

Table 3 Net gold transfer after usage of alternative exchange mechanisms

	Gold Units		
	Sales/Exports	Purchases/Imports	Net Gold settlement
Customer A	4.5	4.5	NIL
Customer B	5.0	5.1	-0.1
Customer C	3.1	3.0	+0.1

The result of a system as recommended above would be a commodity-based information system, where a commodity (i.e. gold) would be used as a unit of account, while most transactions would be performed via one or more different information based exchange systems. What form the information system or systems should take, be it in the form of IOUs, exchange records, community credit, etc., will not be the subject of this paper, given the huge amount of possible forms of complementary currencies and exchange systems. The important argument is that information systems would fill those spaces where the official currency is in shortage, and hence act as a stabilizer of the process of exchange, resulting in a flawless exchange among market participants leading to the inability to charge interest, that is to stipulate returns on loans and financing facilities (Omerčević & Meera, 2012).[2] Therefore, the elimination of interest rates would happen automatically as a result of market forces, and fee based providers of information and tracking systems would most probably replace the banking system based on stipulated returns on debt facilities. One possible information system might be simply the issuance of paper certificates, or even virtual credits as in the case of the WIR Bank, which would not have the status of money, but rather that of IOUs. The participants could use those certified IOUs in their process of exchange, settling the outstanding balances periodically with the official money, which might be based on gold. An imposed full implementation of Zakah (applicable to all forms of mediums of exchange) would play the inbuilt loss function as demanded by Gesell, and thus enforce the circulation of money.

8. Conclusion

After outlining briefly the MMM, we might conclude that it is not compatible with the objectives of the Shari'ah because it endangers mankind with its continuous growth of money

[2] Another condition is that debts must not be exclusively payable in money. Debts must be payable via commodities of the debtor should he/she not have available funds of currency. Bankruptcies are to be declared only if there is no value available to be offered in the debt settlement process.

supply, pushing for uninterrupted economic growth irrespective of the limitations we are facing from our environment. It has also been indicated that the MMM does not only impose continuous growth but also discourages inclusive economic development, levying upon a society, in addition to an upcoming ecological collapse, a systematic transfer of financial wealth into the hands of a minority as well, and all while creating poverty (absolute and relative). It is also clear that even Islamic banking within the MMM is not the solution to the existing problems, but just another form of it.

Having outlined the problems of the MMM, the IGD system has been analyzed as a possible solution to the stated issues, resulting in the conclusion that the IGD system, together with the abolition of interest rates and the imposition of Zakat, would end the continuous growth of money supply and thus provide a foundation for sustainable economic growth. However, Gesell's arguments have been outlined as well; accusing the gold based monetary system of being a welcoming choice for the establishment of interest rates in the market (or differently named and practiced equivalents), contributing to concentration of financial wealth and creation of poverty. His concept of Free-Money is outlined, based on a fiat currency with an inbuilt deterioration function in the form of a negative interest rate to stimulate circulation of money. According to Gesell, this would result in a monetary system compatible with a sustainable and just economy.

However, based on the opinion that money must be a commodity itself, in order to be able to play the role of a unit of account, a monetary system in form of a commodity-based information system is outlined. Based on gold as money (used as a unit of account and medium of exchange) and aided by an information system or systems to satisfy the quantitative needs for exchange media, which, with the full implementation of Zakat, would create a market situation which would not permit the creation of interest rates and/or their equivalents.

It is of immense importance to understand the MMM because the effects it has upon our present and future, especially the future of our children. We strive and suffer to pay for their education, for their food and clothes, hoping to help them and their children to enjoy good lives. But it makes no sense for us to do all these things while simultaneously ignoring the elements of our reality which are undermining the foundation needed to achieve our goals. The MMM is one of those elements.

9. References

Bates, Albert. "Our Own Money: A Recipe for Local Economic Revival", COMMUNITIES, Number 133, Winter (2006): 50-53.

Cizakca, Murat. The case against the Islamic gold dinar. 2010. Available at: <http://mpra.ub.uni-muenchen.de/26645/>. Access Date: 23rd May 2011.

Crude Impact. [Video] US: James Jandak Wood, 2006.

Dawood, N.J., Ed. & Abridg.. *Ibn Khaldun, The Muqaddinah: An Introduction to History*. Translated by F. Rosenthal. New Jersey, USA: Princeton, 2005.

Diamond, Jared M.. *Collapse: How Societies Choose to Fail or Succeed.* New York, USA: Penguin Group Inc., 2005.

Diwany, El Tarek. *The problem with interest*. London, UK: TA-HA Publishers, 1997.

Dusuki, Asyraf Wajdi & Abdullah, Nurdianawati Irwani. "Maqasid al-Shari`ah, Maslahah and Corporate Social Responsibility", The American Journal of Islamic Social Science, Vol. 24, No.1 (2007): 25-45.

Farooq, Mohammad Omar. "Stipulation of Excess in Understanding and Misunderstanding Riba: The Al-Jassas Link", Arab Law Quarterly, No. 21 (2007): 285-316.

Gesell, Silvio. *The Natural Economic Order.* Translated by Philip P.M.A [e-book]. 1918. Available at: <URL: http://www.scribd.com/doc/12347428/GesellSilvioTheNaturalEconomicOrder#document_metadata.>. Access Date: 30th April 2008.

Gonczy, Anne Marie L., Ed.. *Dorothy M. Nichols, Modern Money Mechanics.* Reprint 1994. USA: Federal Reserve Bank of Chicago, 1992.

Greco, Thomas H. Jr.. *Money: Understanding and Creating Alternatives to Legal Tender*. Canada: Chelsea Green Publishing Company, 2001.

Haneef, Mohamed Aslam & Barakat, Emad Rafiq. 'Gold and Silver as Money: A Preliminary Survey of Fiqhi Opinions and Their Implications' in Ahamed Kameel Mydin (Ed.), *Proceedings of the 2002 International Conference on Stable And Just Global Monetary System.* Kuala Lumpur, Malaysia: Research Centre, IIUM (2002): 139-150.

Hartman, Chris. Income inequality. 2011. Available at: <http://inequality.org/income-inequality/>. Access Date: 7th May 2011.

Hasan, Zubair. Ensuring exchange rate stability: Is return to gold (Dinar) possible? Munich Personal RePEc Archive [Online] (Updated 8th April 2008). 2007. Available at: <URL: http://mpra.ub.uni-muenchen.de/8134/>. Access Date: 31st January 2009.

Hoppe, Hans-Hermann. "How is Fiat Money Possible? - or, The Devolution of Money and Credit", The Review of Austrian Economics, Vol. 7, No. 2 (1994): 49-74.

Hornberger, Jacob G.. Legal Tender and the Civil War. The Future of Freedom Foundation [Online]. 2000. Available at: <URL: http://www.fff.org/freedom/1100a.asp>. Access Date: 23rd November 2009.

Hossein, Imran. *The Gold Dinar and Silver Dirham: Islam and the Future of Money.* San Fernando, Trinidad and Tobago: Masjid Jāmi'ah, 2007.

Ianchovichina, Elena & Lundstrom, Susanna. What is Inclusive Growth? Poverty Reduction and Economic Management Network (The World Bank). 2009. Available at: <http://siteresources.worldbank.org/INTDEBTDEPT/Resources/468980-1218567884549/WhatIsInclusiveGrowth20081230.pdf>. Access Date: 24th March 2011.

Kennedy, Margrit. *Interest and Inflation Free Money.* Seva International [e-book]. 1995. Available at: <URL: www.margritkennedy.de/pdf/BUE_ENG_Interest.pdf>. Access Date: 6th April 2009.

Kreiser, Larry. "Early American accounting", The journal of Accountancy, July (1976): 77-80.

Laidler, David. "Free Banking and the Bank of Canada", Bank of Canada Review, Winter 2005-2006 (2005).

Lietaer, Bernard A.. 10 Questions With Bernard Lietaer. [Interview] Journal of Financial Planning. May (2003): 12-16.

McLellan, David, Ed. & Abridg.. *Karl Marx, Capital: An abridged edition*. New York, USA: Oxford University Press, Inc., 2008.

Meera, Ahamed Kameel Mydin. *The Islamic Gold Dinar*. Kuala Lumpur, Malaysia: Pelanduk Publications, 2002.

_____ *The Theft of Nations*. Kuala Lumpur, Malaysia: Pelanduk Publications, 2004.

Omerčević, Edo & Meera, Ahamed Kameel Mydin. 'Gesell's Concept of Free-Money: Eliminating Interest Through Information-Money', in Adnan Trakic & Hanifah Haydar Ali Tajuddin (Ed.), *Islamic Banking & Finance: Principles, Instruments & Operations*. Kuala Lumpur, Malaysia: CLJ Publications (2012): 123-153.

Rosly, Saiful Azhar. *Critical Issues on Islamic Banking and Financial Markets: Islamic Economics, Banking & Finance, Investments, Takaful and Financial Planning.* Kuala Lumpur, Malaysia: Dinamas Publishing, 2005.

Schwarz, Fritz. Die Brakteaten, das Freigeld des Mittelalters. Excerpt from: Vorwärts zur festen Kaufkraft des Geldes und zur zinsbefreiten Wirtschaft. Darmstadt, Germany: Synergia Verlag. 1931. Available at: <URL: http://blog.welfair.ch/download/>. Access Date: 28th December 2009.

Shakespeare, Rodney & Challen, Peter. 'Seven Steps To Justice', in Ahamed Kameel Mydin Meera (Ed.), *Proceedings of the 2002 International Conference on Stable And Just Global Monetary System*. Kuala Lumpur, Malaysia: Research Centre, IIUM (2002): 209-228.

Siegfried, Nikolaus A."Concepts of paper money in Islamic legal thought", Arab Law Quarterly, April (2001): 319-332.

The Story of Stuff. [Video] US: Free Range Studios. (Narrated by Annie Leonard), 2007.

The 11th Hour. [Video] US: Warner Independent Pictures, 2007.

United Nations Development Programme. Human development to eradicate poverty. [Online] 1997. Available at: <http://hdr.undp.org/en/media/hdr_1997_en_overview.pdf>. Access Date: 7th May 2011.

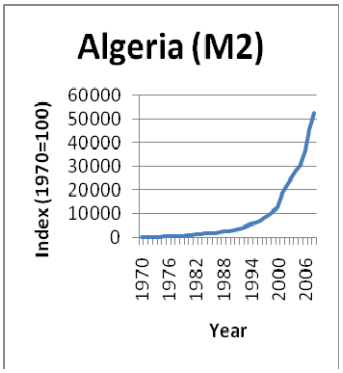
Vadillo, Umar Ibrahim. *Fatwa concerning the Islamic Prohibition on using Paper-Money as a medium of exchange.* Granada, Spain: Madinah Press, 1991.

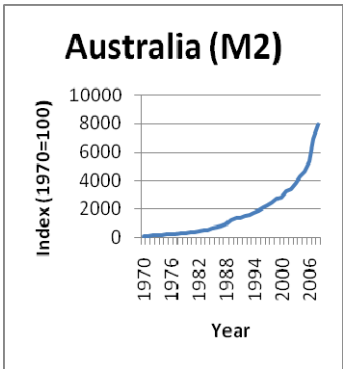
van den Hauwe, Ludwig. Professor Becker on Free Banking: A Comment. Munich Personal RePEc Archive [Online] (Updated 13th April 2008). 2007. Available at: <URL: http://mpra.ub.uni-muenchen.de/8251/>. Access Date: 11th November 2009.

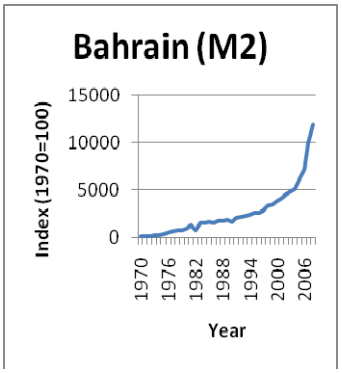
White, Lawrence H. & Selgin, George. Why Private Banks and Not Central Banks Should Issue Currency, Especially in Less Developed Countries. Library of Economics and Liberty [Online] (Updated 19th April 2000). 2000. Available at: <URL:www.econlib.org/library/Features/featu re3.html>. Access Date: 25th November 2009.

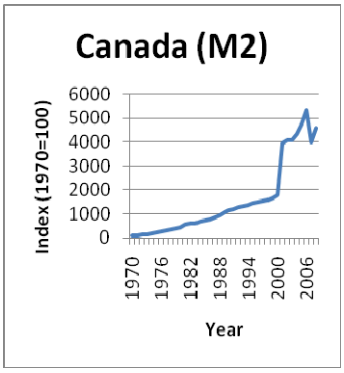
10. Appendix

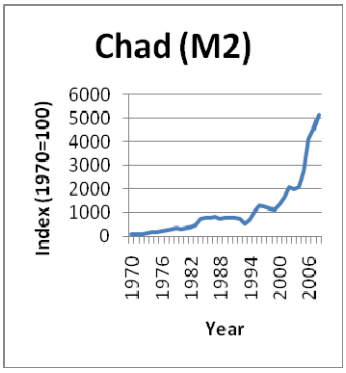
Index (1970=100) of money and quasi money (M2) (current local currency unit) for randomly selected countries[3]

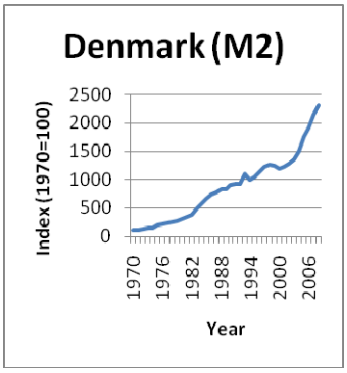


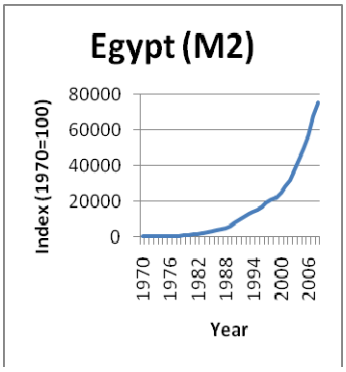


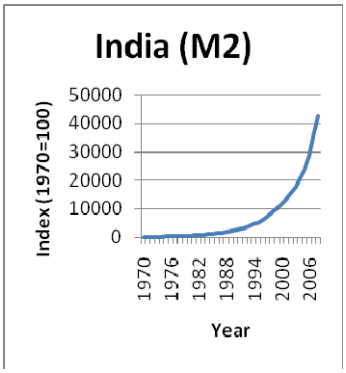


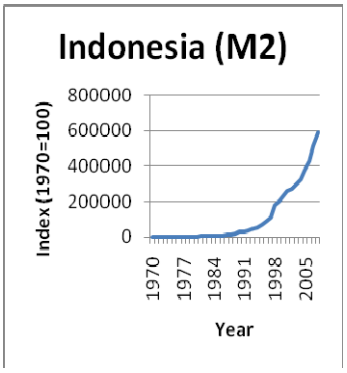




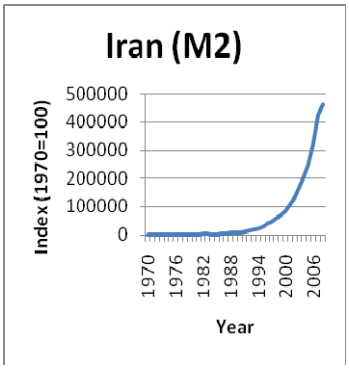


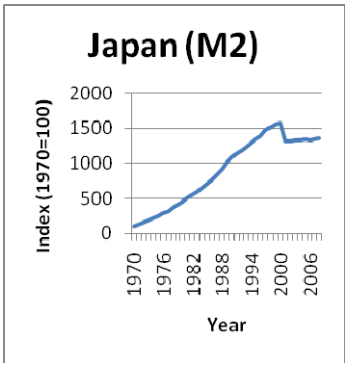


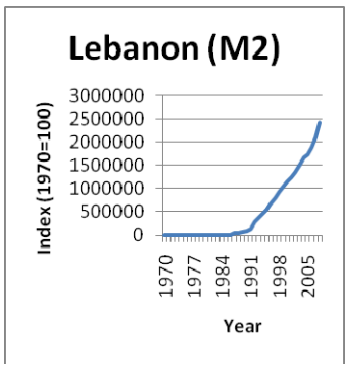


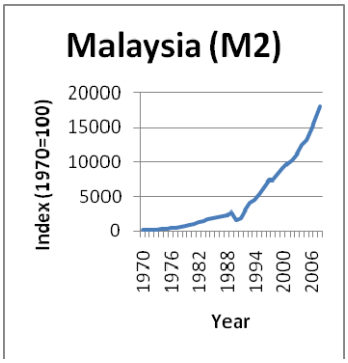


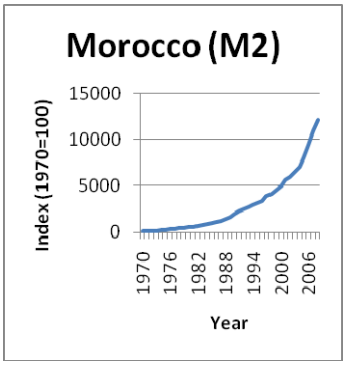
[3] (Source: International Monetary Fund, International Financial Statistics and data files)

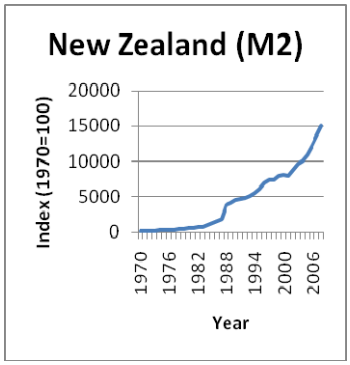

Iran (M2)
Index (1970=100)
500000
400000
300000
200000
100000
0
1970 1976 1982 1988 1994 2000 2006
Year

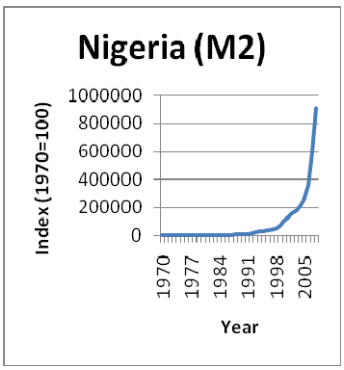

Japan (M2)
Index (1970=100)
2000
1500
1000
500
0
1970 1976 1982 1988 1994 2000 2006
Year

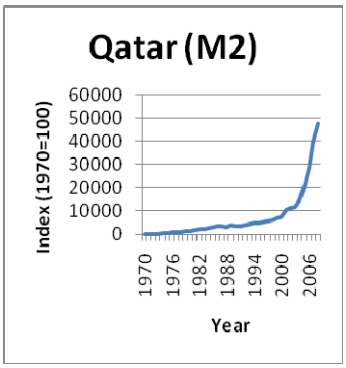

Lebanon (M2)
Index (1970=100)
3000000
2500000
2000000
1500000
1000000
500000
0
1970 1977 1984 1991 1998 2005
Year

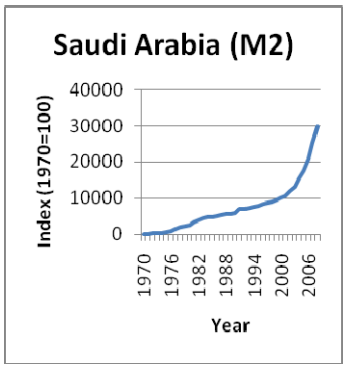

Malaysia (M2)
Index (1970=100)
20000
15000
10000
5000
0
1970 1976 1982 1988 1994 2000 2006
Year

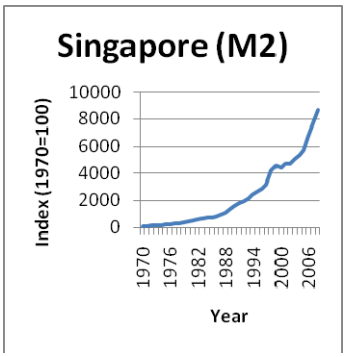

Morocco (M2)
Index (1970=100)
15000
10000
5000
0
1970 1976 1982 1988 1994 2000 2006
Year

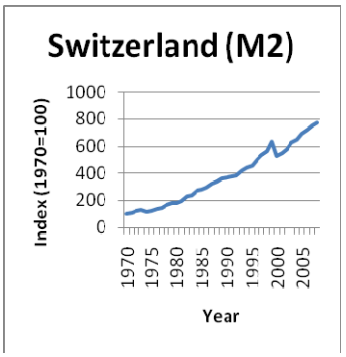

New Zealand (M2)
Index (1970=100)
20000
15000
10000
5000
0
1970 1976 1982 1988 1994 2000 2006
Year

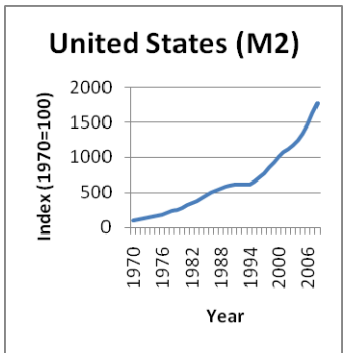

Nigeria (M2)
Index (1970=100)
1000000
800000
600000
400000
200000
0
1970 1977 1984 1991 1998 2005
Year


Qatar (M2)
Index (1970=100)
60000
50000
40000
30000
20000
10000
0
1970 1976 1982 1988 1994 2000 2006
Year


Saudi Arabia (M2)
Index (1970=100)
40000
30000
20000
10000
0
1970 1976 1982 1988 1994 2000 2006
Year


Singapore (M2)
Index (1970=100)
10000
8000
6000
4000
2000
0
1970 1976 1982 1988 1994 2000 2006
Year


Switzerland (M2)
Index (1970=100)
1000
800
600
400
200
0
1970 1975 1980 1985 1990 1995 2000 2005
Year


United States (M2)
Index (1970=100)
2000
1500
1000
500
0
1970 1976 1982 1988 1994 2000 2006
Year